Abstract

The invention is a solid state process for analyzing genomes by visualizing sequence specific markers (e.g., proteins that bind defined DNA sequence elements) by scanning probe microscopy. The method includes linear display of the nucleic acid on a solid surface, image acquisition by the scanning probe microscope, and digital data analysis. The acts of the method result in a bar code type display of each fragment of the DNA sample. These bar codes are then used to place the fragments in the order they appear on the original DNA sample.